

waveform and a generating timing, respectively, of the driving pulse for each one of the plurality of nozzles, wherein the converting unit converts the recording data into the driving data based on the nozzle profile data, and each of the driving pulses is defined by a plurality of data sets of the driving data; and

an updating unit that updates the waveform data for each of the plurality of nozzles when a printing condition has been changed.

Claim 3 (Amended). An [The] ink jet recording device [according to claim 1, further] comprising:

a head formed with a plurality of nozzles;

a converting unit that converts recording data into driving data, the driving data including data sets defining driving pulses for corresponding ones of the plurality of nozzles;

a feed unit that feeds a recording medium in a first direction;

an ejection element provided to each one of the plurality of nozzles for ejecting an ink droplet from the corresponding nozzle onto the recording medium in response to the driving data while the feed unit is feeding the recording medium in the first direction;

a memory that stores nozzle profile data including waveform data and timing data for each of the plurality of nozzles, the waveform data and the timing data indicating a waveform and a generating timing, respectively, of the driving pulse for each one of the plurality of nozzles, wherein the converting unit converts the recording data into the driving data based on the nozzle profile data, and each of the driving pulses is defined by a plurality of data sets of the driving data;

a designating unit that designates a target ink amount of the ink droplet and a target impact position on the recording medium on which the ink droplet impacts;

a measuring unit that measures a distance between the target impact position and an actual impact position on the recording medium where the ink droplet has impacted with respect to the first direction; and

an updating unit that updates the nozzle profile data based on the target impact

23 position and the distance measured by the measuring unit.

1 Claim 8 (Amended). The ink recording device according to claim [1] 3, further
2 comprising a deflection electric field generating unit and a charging electric field
3 generating unit, the deflection electric field generating a deflection electric field in a
4 space defined between the recording medium and the head, the deflection electric field
5 having a field element in second direction substantially perpendicular to the first direction
6 and a third direction in which the ink droplet is ejected, the charging electric [filed] field
7 generating unit generating a charging electric field in the plurality of nozzles, the charging
8 electric field having a field element in the third direction.

1 Claim 9 (Amended). The ink jet recording device according to claim 8, [further
2 comprising] wherein the designating unit [that] designates [a target ink amount of the ink
3 droplet and a] the target impact position on the recording medium on which the ink
4 droplet impacts with respect to both the first direction and the second direction;

5 the measuring unit includes:

6 a first measuring unit that measures a first distance between the target
7 impact position and an actual impact position on the recording medium where the ink
8 droplet has impacted with respect to the first direction; and

9 a second measuring unit that measures a second distance between the
10 target impact position and the actual impact position with respect to the second direction;

11 [an] the updating unit [that] updates the nozzle profile data based on the target
12 impact position, the first distance, and the second distance.

1 Claim 12 (Amended). [The] An ink jet recording device [according to claim 1, further]
2 comprising:

3 a head formed with a plurality of nozzles;

4 a converting unit that converts recording data into driving data, the driving data
5 including data sets defining driving pulses for corresponding ones of the plurality of

6 nozzles;

7 a feed unit that feeds a recording medium in a first direction;

8 an ejection element provided to each one of the plurality of nozzles for ejecting an
9 ink droplet from the corresponding nozzle onto the recording medium in response to the
10 driving data while the feed unit is feeding the recording medium in the first direction;

11 a memory that stores nozzle profile data including waveform data and timing dat
12 for each of the plurality of nozzles, the waveform data and the timing data indicating a
13 waveform and a generating timing, respectively, of the driving pulse for each one of the
14 plurality of nozzles, wherein the converting unit converts the recording data into the
15 driving data based on the nozzle profile data, and each of the driving pulses is defined by
16 a plurality of data sets of the driving data; and

17 a leveling unit that levels generating timings of the driving pulses by changing the
18 timing data of the nozzle profile data.

1 Claim 13 (Amended). [The] An ink jet recording device [according to claim 1, further]
2 comprising:

3 a head formed with a plurality of nozzles;

4 a converting unit that converts recording data into driving data, the driving data
5 including data sets defining driving pulses for corresponding ones of the plurality of
6 nozzles;

7 a feed unit that feeds a recording medium in a first direction;

8 an ejection element provided to each one of the plurality of nozzles for ejecting an
9 ink droplet from the corresponding nozzle onto the recording medium in response to the
10 driving data while the feed unit is feeding th recording medium in the first direction;

11 a memory that stores nozzle profile dat including waveform data and timing data
12 for each of the plurality on nozzles, the waveform data and the timing data indicating a
13 waveform and a generating timing, respectively, of the driving pulse for each one of the
14 plurality of nozzles, wherein the converting unit converts the recording data into the
15 driving data based on the nozzle profile data, and each of the driving pulses is defined by